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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/594,873	06/15/2000	Fabienne Betting	14XZ00087	8908
23413	7590	08/22/2006	EXAMINER	
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			YANG, RYAN R	
			ART UNIT	PAPER NUMBER
			2628	

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/594,873	BETTING ET AL.	
	Examiner	Art Unit	
	Ryan R. Yang	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,7,9,11 and 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7,9,11 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/16/2006 has been entered.
2. This action is responsive to communications: Amendment, filed on 5/16/2006. This action is non-final.
3. Claims 1, 3, 5, 7, 9, 11 and 12 are pending in this application. Claim 1 is independent claims. In the Amendment, filed on 5/16/2006, claims 1, 3, 5, 7, 9 and 11 were amended.
4. This application claims foreign priority dated 6/21/99.
5. The present title of the invention is "Method of visualization of a part of a three-dimensional image".

Claim Rejections - 35 USC § 102

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
7. Claims 1, 3, 7 and 11-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Yanof et al. (5,734,384)

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As per claim 1, Yanof et al., hereinafter Yanof, discloses a method of visualization of a three-dimensional image comprising:

Displaying the three-dimensional image (Figure 2, item 22 is a three-dimensional image of an artery and 46a is a view point);

Selecting a point on an element of interest present in a part of three-dimensional image ("moving the origin cursor to a voxel within region 36 using any of the reprojection or section views as a reference guide ... the reprojection views shifts such that the voxel associated with the origin cursor is screen center", column 7, line 6-13);

Creating in the part of the three-dimensional image a finite volume whose dimensions are predetermined and whose center is the point on the element of interest presented in the part of the three-dimensional image ("the reprojection views shifts such that the voxel associated with the origin cursor is screen center", column 7, line 11-13; Figure 22 is a predetermined finite image);

Making an interactive intersection between the predetermined finite volume and the part of the three-dimensional image to isolate the element of interest in the three-dimensional image (where Angio Analysis Menu and left column of Figure 2 provides interactive intersection between the predetermined finite volume and the part of the three-dimensional image); and

visualizing only the part of the three-dimensional image contained in the predetermined finite volume (Figure 2 where the function Pan and Zoom makes the interactive panning and zooming of the image).

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8. As per claim 3, Yanof demonstrated all the elements as applied to the rejected independent claim 1, supra, and further discloses the predetermined finite volume can be displaced in the three-dimensional image according to a translational motion, while displaying only the part of the three-dimensional image contained at each instant in the predetermined finite volume (Figure 2, item 22 is a finite image and where the function Pan and Zoom makes the interactive panning controls the translation motion and zooming controls size of the image).

9. As per claim 7, Yanof demonstrated all the elements as applied to the rejected independent claim 1, supra, and further discloses once a part of the three-dimensional image is visualized in the predetermined finite volume, the dimensions of that predetermined finite volume can be modified by an operator (Figure 2 where the function Zoom makes the can adjust the size of the image).

10. As per claim 11, Yanof demonstrated all the elements as disclosed in the rejected claims 1, and further discloses once the point is selected on the element of interest, a translation of the three-dimensional image is made, so as to place the point in the center of a display window of the three-dimensional image ("moving the origin cursor to a voxel within region 36 using any of the reprojection or section views as a reference guide ... the reprojection views shifts such that the voxel associated with the origin cursor is screen center", column 7, line 6-13).

11. As per claim 12, Yanof demonstrated all the elements as applied to the rejected claim 1, supra, and further discloses the point is selected by means of a cursor ("moving

the origin cursor to a voxel within region 36 using any of the reprojection or section views as a reference guide”, column 7, line 6-8).

Claim Rejections - 35 USC § 103

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yanof et al. as applied to claim 1 above, and further in view of Bamberger (5,970,164).

As per claim 5, Yanof demonstrated all the elements as applied to the rejected independent claim 1, supra.

Yanof teaches displaying of a selected 3-D image, it is noted that Yanof does not explicitly disclose that any part of the three-dimensional image not contained in the cylinder is displayed in degraded mode. However, this is known in the art as taught by Bamberger et al, hereinafter Bamberger. Bamberger teaches a medical diagnosis system in which “desired portions of the digitized image for further image enhancement according to a desired image enhancement feature selectable from a plurality of image enhancement features” (Abstract).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Bamberger into Yanof because Yanof teaches a selective 3-D image displaying method and Bamberger teaches methods of enhancing the image of the region of interest (thus, the rest of the area looks degraded) in order to make a more accurate analysis of the image data.

Claim Rejections - 35 USC § 112

13. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

14. Claims 1, 3, 5, 7, 9, 11 and 12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 limitation claims "displaying the three-dimensional image". It is not clear from the specification how a three-dimensional image is represented on a two-dimensional image.

Response to Arguments

15. Applicant's arguments filed 5/16/2006 have been fully considered but they are not persuasive.

Applicant alleges Yanof et al. (5,734,384) does not teach displaying three-dimensional image. In reply, it is not clear from the specification of the application how a three-dimensional image is represented on a two-dimensional image. What can be displayed on a two dimensional display is a two dimensional image. Yanof teaches displaying a two-dimensional view of a three-dimensional image; it is therefore displaying a three-dimensional image.

Applicant alleges Yarnof does not teach selecting a point of interest. In reply, examiner consider the intersection of 28a and 30a of port 22 of Figure 2 is the point of interest.

Applicant alleges Yarnof does not teach an interactive intersection to cause the isolation of the element of interest in the predetermined volume of the image. In reply, examiner considers the port 44 of Figure 22 can change view of image of interest, therefore meets the limitation.

Applicant alleges Yarnof does not teach creating in a part of the image a predetermined volume whose center is the point. In reply, examiner considers port 22 of Figure 2 is a predetermined volume and the intersection of 28a and 30a is the center point.

Applicant alleges Yarnof does not teach visualizing only the part contained in the volume. In reply, Examiner considers what only is contained in port 22 of Figure 2 is visualized.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Inquiries

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan R. Yang whose telephone number is (571) 272-7666. The examiner can normally be reached on M-F 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ryan Yang
Primary Examiner
August 20, 2006